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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION**

ORACLE AMERICA, INC.

Plaintiff,

v.

GOOGLE, INC.

Defendant.

Case No. CV 10-03561 WHA

**DECLARATION OF HINKMOND WONG
IN SUPPORT OF ORACLE AMERICA,
INC.'S OPPOSITION TO GOOGLE'S
MOTION TO STRIKE PORTIONS OF
THIRD EXPERT REPORT**

Dept.: Courtroom 8, 19th Floor
Judge: Honorable William H. Alsup

1 I, HINKMOND WONG declare as follows:

2 1. I am an employee of Oracle America, Inc. (“Oracle”). My title is Consulting Member
3 of the Technical Staff.

4 2. I have personal knowledge of the facts set forth herein. If called upon to testify, I
5 could and would testify as follows.

6 3. I hold a bachelor’s degree in electrical engineering from the University of Michigan
7 and a master’s degree in computer engineering from Santa Clara University. I have been working as
8 a software engineer since 1989.

9 4. I have been employed as an engineer with Sun Microsystems, Inc. (“Sun”), now
10 Oracle, since approximately 1994. Through my years of working at Sun, I have become very familiar
11 with the Java technology, and I have helped to design and improve the Java platform as part of my
12 regular work responsibilities at various points throughout my tenure at Sun, now Oracle. I now work
13 primarily with Java ME technology, including the editions of Java that run on smartphones, cell
14 phones, and embedded devices. I am the inventor of several patents related to Java technology. In
15 addition, my work at Sun and now Oracle has included development of a smartphone platform for a
16 third party customer. As a result of my work over the years, I am quite familiar with and
17 knowledgeable about the technical requirements of mobile devices in general and smartphones in
18 particular.

19 5. For example, in addition to my ordinary work with Java ME, I was one of the
20 engineers involved in the actual Sun-Google negotiations in the 2005–2006 time frame, when I was
21 involved in planning the technical specifications, as well as estimating the work effort involved for
22 some of the tasks that were required, for the mobile platform that the parties jointly considered
23 developing and marketing. At that time, I was also responsible for advising Sun executives on the
24 technical components that Sun could offer and that were essential to a smartphone platform such as
25 Android. In the course of those negotiations, I participated in technical meetings with Google
26 engineers to determine what Google’s requirements were for the Android platform and what portions
27 of Sun’s Java technologies would be important in that effort. I also participated in face to face
28 meetings with Google’s Andy Rubin concerning the negotiations.

6. I was therefore employed at Sun, and knowledgeable about the Java technology, in the 2006 time frame, when Sun and Google were actually negotiating for a Java license for Android.

7. In addition to the experience I outlined above, I have direct experience with a number of Java patents, and have direct experience with the performance benefits that certain Java patents provide. I have ranked patents in terms of their engineering performance before.

8. I, along with four of my colleagues at Oracle, was asked by counsel for Oracle to conduct an analysis of certain patents held by Sun Microsystems, Inc. in the spring of 2006. Specifically, counsel requested that we determine which of Sun's Java patents would have been potentially relevant to a smartphone platform in 2006, and then determine which of those patents would have been expected, from an engineering perspective, to provide the greatest benefits to such a platform.

9. Along with the other engineers, I concluded that we could provide the analysis requested by counsel through the following steps:

- Identify relevant "blocks" of technology corresponding to functions that would be expected to be useful to a smartphone platform in 2006;
- Identify what subset of Sun's patent portfolio would have been useful to a smartphone platform in 2006;
- Assign those potentially relevant patents to the technology blocks;
- Rank the relative importance of those technology blocks; and
- Rate each of the patents on a three-point scale.

10. I was not asked to provide any economic valuation of the patents in suit. Instead, my analysis of "value" was confined to the engineering benefit that the patents would be expected to provide a smartphone platform.

11. Throughout the process, I understood that Dr. Mark Reinhold was the leader of the team. I understood that he would make all final decisions, and that I was helping him to review the patents in the interest of time and to ensure that the final analysis was as accurate and comprehensive as possible.

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12. Dr. Reinhold asked me to begin working on this project on or about January 24, 2012. I had not done any work for Prof. Cockburn prior to that date.

13. At the outset of the process, I understand that George Simion of Oracle ran searches through Sun's patent databases to acquire a list of over 1,300 Java related patents that we were to review. I reviewed this list to make sure that it included all of the patents that I would expect to see, and confirmed that it did.

14. In the first step of the process, our team, led by Dr. Reinhold, identified 22 technology blocks that would have been relevant to a smartphone platform in 2006. We brainstormed the list of logical functional components on or about January 24, 2012; over the course of the next few days, we refined that list to come up with the final list of 22 blocks.

15. In order to contribute to this exercise, I used my personal experience, expertise, understanding of Google's objectives in 2006 based on a Product Requirements Document that I understand Google provided to Sun in 2006, and knowledge of the Java platform. I am confident that the 22 technology blocks that we identified represent the full range of Java technology that would have been relevant to a smartphone in 2006.

16. In the second step of the process, our team as a whole, led by Dr. Reinhold, reviewed every one of the patents in the list of 1,300+ patents captured by the searches discussed above to determine which patents would have been relevant to a smartphone platform in 2006.

- Our team divided up the group of 1,300+ patents to ensure that every patent was evaluated by at least one person. We could not all look at every patent because of limitations on time. I personally looked at each patent I was assigned to evaluate with care, and I have no reason to believe my colleagues did not do the same.
- We reviewed the patents by looking at the titles, abstracts, descriptions, application dates, and inventor names. When we believed it would be useful to do so, we also reviewed the specifications and the claims by retrieving the patent from the USPTO web site. This is a reasonable way to ascertain a patent's rough usefulness in a smartphone, because, in my experience, the abstract and description are written by engineers, will provide the most useful information to another engineer, and will

1 explain the general purpose of a patent and its claimed invention with enough
2 specificity to understand its scope, application, and potential advantages. In contrast,
3 in my experience information in the claims is less useful.

- 4 • Although reviewing and categorizing the patents was time-consuming, it was not hard.
5 Patents filed by Java engineers relating to improvements in Java technology use
6 familiar terms, and in many cases I myself or another member of the team had direct
7 experience with the invention or implementations of the invention.
- 8 • I finished reviewing my portion of the 1,300+ patents on or about January 26, 2012.
- 9 • When we had finished classifying each patent we were assigned to review, the
10 members of the team who had special expertise with one or more of the technology
11 blocks reviewed and confirmed the accuracy of our categorization. We discussed any
12 inconsistently classified patents, and discussed any patents that I or one of my
13 colleagues had indicated needed further attention or discussion.

14 17. At the end of this part of the process, I again reviewed the final list of all patents that
15 could have been relevant in a smartphone platform in 2006. The final responsibility for deciding on
16 the list of potentially relevant patents fell to Dr. Reinhold. After this process, Dr. Reinhold
17 determined, and I agreed, that 569 patents out of the original 1,300+ would, in fact, be potentially
18 relevant to a smartphone platform in 2006, and had classified each of those patents into one of the 22
19 groups.

20 18. In the third step of the process, our team, led by Dr. Reinhold, ranked the 22
21 technology groups. We distinguished among them by determining the benefits they would be
22 expected to provide a smartphone platform in terms of speed, startup, footprint (i.e. memory
23 requirements), and security.

- 24 • We determined that these four criteria were reasonable criteria on which to rank the
25 patents because software patents in the Java portfolio are almost always designed to
26 provide one of these benefits. In my experience, and based on my knowledge of the Java
27 platform, if I were to consider what benefits I would want to provide a Java-based
28

smartphone in 2006, these are the criteria I would choose. These are the criteria that we routinely used at Sun and now at Oracle to evaluate our own Java implementations.

- We ranked these groups independent of the patents that were contained within them.
- Based on our ranking system, two or more groups occasionally tied.

19. We had completed this process on or about January 31, 2012.

20. In the fourth step of the process, our team, led by Dr. Reinhold, reviewed the specific patents, and evaluated each patent on a three-point scale, in which the best score was a 1. The ratings reflected the benefit that our team, led by Dr. Reinhold, would have expected the patented inventions to provide a smartphone platform in 2006. The top rating, a 1, was reserved for those patents that were either required by the Java platform specification for compatibility, or that would bring an order of magnitude improvement to the key metrics of speed, startup, footprint, or security. The middle rating, 2, was assigned to patents that would bring a significant improvement to the key metrics of speed, startup, footprint, or security. The bottom rating, 3, was assigned to patents that would have been relevant but would not have provided the benefits of a 1 or 2 rated patent.

21. By the time we began to rate the patents, we had reviewed many of them multiple times, in addition to our pre-existing familiarity with the underlying inventions. Again, I am confident that we had sufficient information to make an informed engineering assessment of the likely benefits of each patent. I and other senior engineers at Oracle, including each of the other four engineers on this assignment, regularly are called upon to make assessments of proposed innovations and improvements to Java technology. I and other engineers frequently make those assessments using information that is no more detailed than what is disclosed in the patent abstracts and descriptions. In addition, I was able to apply my own knowledge of how the inventions had been implemented, and the engineering benefits (or lack thereof) that resulted. The other engineers often had similar experiences that they shared with the team as we reviewed the patents and that informed our collective assessment. I agreed with all of the ratings that we settled on as a group.

22. In summary, we concluded:

- A group of 569 patents would be relevant to a smartphone in 2006.
- Those 569 patents fit into 22 technology groups.

- The most important technology group is the Boot group.
- There were seven patents ranked as 1 in the Boot group.
- The second most important technology group is the JIT group.
- There were twelve patents ranked as 1 in the JIT group.
- The third most important technology group is the interpreter group.
- There were three patents ranked as 1 in the interpreter group.
- It would not be possible, based solely on engineering considerations that would be knowable in 2006, to say which of the 22 patents we identified in the top three groups was the most or least valuable to a smartphone platform such as Android.

23. I believe that both the process we employed, and the results we came to, are reasonable and accurate. If I were on a team assigned to design a Java-based smartphone platform in 2006, the three most important groups of technology in terms of startup, speed, and footprint would have been boot, JIT, and interpreter.

24. I am confident that the team had sufficient time and information to ascertain the correct rating for each patent, and that we had the collective expertise with the Java platform to understand the relative importance of every one of the technology groups in a smartphone platform in 2006 and every one of the patents in the list of 569. I do not believe that there is anyone at Oracle that we could have added to the team who would have improved the accuracy of the process or the results.

25. Although I have some knowledge of the Android platform, and I have assisted lawyers in analyses to determine whether Android infringes Oracle's patents, neither aspect of that work had any effect on my work for this assignment. My assistance in that regard was not confined to the seven patents on which Oracle has sued Google – I had looked at numerous other Java patents as well. I understand that Google has also claimed in papers filed with the Court I and my colleagues are “the very engineers who selected litigation patents at the outset.” I know that statement to be false with respect to me. I have never selected any patents for this litigation or any other.

26. I understand that Google has also claimed in papers filed with the Court that I and my colleagues “admitted in deposition that they spent next to no time compiling their rankings and were

1 influenced by their prior work in this case.” I understand that Google also asserts in its papers that I
2 and my colleagues “favor[ed] the patents they had already analyzed as part of this case.” I know that
3 all of those assertions are entirely untrue with regard to me, and are contrary to everything I observed
4 as I watched my colleagues perform their work alongside me. Together we spent significant time
5 categorizing, evaluating, and rating the patents, and applied decades of directly relevant engineering
6 experience to do so. There was sufficient time to do the analysis that we were asked to do, and to do
7 so in a reliable and responsible manner. I did not “favor” any of the asserted patents for any reason
8 related to the litigation, and I was not “influenced” by my prior work in the litigation. The assistance
9 I provided to help determine whether Android infringes Java patents did not cause me to mis-
10 categorize any patent, nor did it cause me to rate any patent higher or lower than its technical merits
11 warranted. I considered each patent and technology group based on the objective engineering benefit
12 I would have expected it to provide to a smartphone platform in 2006, in light of my engineering
13 experience and my knowledge of Java technology as described above.

14 I declare under penalty of perjury that the foregoing is true and correct.

15
16 DATED: February 23, 2012

/s/ Hinkmond Wong

HINKMOND WONG

ATTESTATION OF FILER

I, Steven C. Holtzman, have obtained Hinkmond Wong's concurrence to file this document on his behalf.

Dated: February 24, 2012

BOIES, SCHILLER & FLEXNER LLP

By: /s/ Steven C. Holtzman
Steven C. Holtzman

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